

Method of Test For
**DETERMINATION OF PERCENTAGE OF CRUSHED PARTICLES FOR COARSE
AGGREGATES**

DOTD DESIGNATION: TR 306-14

Scope

1. This method is intended to determine the percentage of single face or double face crushed particles for coarse aggregate in stockpiles or in asphaltic mixture.
2. Reference Documents
 - A. AASHTO T 248 – Reducing Samples of Aggregate to Testing Size
 - B. DOTD TR 307 – Bitumen Content of Paving Mixtures
 - C. DOTD TR 309 – Mechanical Analysis of Extracted Aggregate
 - D. DOTD TR 323 – Asphalt Content of Asphaltic Mixtures by the Ignition Method
 - E. ASTM D5821 – Determining the Percentage of Fractured Particles in Coarse Aggregate
 - F. DOTD TR 3xx – Asphalt Volumetric Calculations

Apparatus

1. Use ASTM D5821, Section 5- APPARATUS
2. Forms – Aggregate Test Report, Asphaltic Concrete Plant Report, Asphaltic Concrete Verification Report, or other appropriate forms

Health Precautions

Proper precautions are to be taken whenever hot materials or equipment must be handled. Use container holder or thermal gloves while handling hot containers. Wear eye protection while stirring and weighing heated materials due to possible shattering of particles. Dry contaminated materials under a vent to prevent exposure to fumes.

Sample

1. Use ASTM D5821, Section 7-SAMPLE PREPARATION with the following modifications
 - A. Stockpiles
 - i. One full sample sack of crushed aggregate.
 - ii. Obtain a representative test sample of approximately 1200g in accordance with AASHTO T 248.
 - B. Asphaltic concrete loose mixture sample.
 - i. Extract the entire aggregate portion from the loose mixture sample in accordance with DOTD TR 307 or DOTD TR 323.
 - ii. Obtain the test specimen by retaining all of the plus 4.75 mm (No. 4) aggregate from performing the extracted aggregate gradation analysis in accordance with DOTD TR 309.

Procedure

1. Use ASTM D5821, Section 8-PROCEDURE with the following modifications
 - A. Procedure shall be performed for both single fractured face particles and double fractured face particles.
 - B. Report Percent Crushed (single face or double face) and Percent Double Face Crushed (double face only).

Report

1. Report the percent crushed aggregate single face or double face to the nearest whole number.

2. Report percent crushed for stockpile samples on the Aggregate Test Report Form.
3. Report percent crushed for asphaltic loose mixture on Asphaltic Concrete Plant Report Form or Asphaltic Concrete Verification Report Form.

Normal Test Reporting Time

Normal test reporting time is 4 hours.

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